

# Ryan Michaud

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<https://github.com/ryanwmichaud>

## EDUCATION

**Oberlin College - Oberlin, Ohio**, August 2020 - May 2024

Bachelor's in Computer Science and Musical Studies - 3.96 GPA

Classes - Data Structures, Algorithms, Machine Learning, Machine Listening, Digital Signal Processing

## SKILLS

Python, Java, C++, JavaScript, SQL, Express, React, Flask

Git, Unix/Linux, AWS (EC2, S3, RDS, CodeBuild), Docker

## WORK EXPERIENCE

**Volunteer - Citizen's Rx** - Remote

September 2024 - Present

- Helped write and maintain SQL queries to gain insight into call center data.

**Programmer - Oberlin College Libraries** - Oberlin, Ohio

September 2023 - June 2024

- Wrote and maintained Python scripts to automate the upload and downloads of digital resources via API integration with library databases.
- Managed the deployment and upgrades of an open-source Ruby on Rails streaming application with AWS (EC2, S3, CodeBuild) and Docker.
- Customized the UI to improve user experience and college branding.

**Networking Assistant - Oberlin College CIT** - Oberlin, Ohio

June 2023 - June 2024

- Responded to tickets troubleshooting and resolving physical, datalink, and network layer issues.
- Created thorough documentation detailing network configuration and infrastructure changes.

**Lab Assistant/Grader - Oberlin College Computer Science** - Oberlin, Ohio

February 2022 - February 2023

- Assisted students with debugging Python and Java code. Graded lab and problem set submissions.

## PROJECTS

**[Chord Voicing Finder](#) - Node.js, React, Express, MYSQL**

- Designed an algorithm which finds every possible way that a given group of notes can be played simultaneously on a string instrument. Supports any number of strings in any tuning.
- Built a front end which takes user input and generates diagram visualizations of the results.
- Implemented secure token based user authentication and integrated a Google sign in option for users to save their preferences and favorite voicings.
- [Deployed here](#) with AWS EC2 and RDS.

**[Harmonizer Plugin](#) - C++, JUCE Framework**

- Built a MIDI plugin for a DAW which allows users to explore constant structure harmony by harmonizing incoming MIDI notes in real time with all possible inversions of a user provided structure.
- Wrote unit tests to ensure future changes do not compromise the core functionality.